

Claims

We Claim:

5        1. Book production apparatus, comprising:  
a gathering line operable during a production sequence;  
a demand printer for producing printed pages;  
a feeding device operable to feed the printed pages to the gathering line; and  
a controller that coordinates operation of the gathering line, the demand printer,  
10 and the feeding device during the production sequence to produce books.

2. The book production apparatus of claim 1, wherein the controller is  
coupled to a control interface that controls the demand printer.

15        3. The book production apparatus of claim 2, wherein the control interface is  
responsive to a template file having fixed and variable information.

20        4. The book production apparatus of claim 3, wherein the control interface  
includes a processing apparatus operable to separate the fixed and variable information  
into separate fixed and variable data streams.

25        5. The book production apparatus of claim 4, wherein the separate fixed and  
variable data streams are provided to a collator/raster image processor together with a  
database and a press command file.

6. The book production apparatus of claim 1, wherein the feeding device  
includes a folder for folding the printed pages.

7. The book production apparatus of claim 6, wherein the feeding device further includes a transfer apparatus that transfers the folded printed page to the gathering line.

5 8. The book production apparatus of claim 1, wherein the feeding device comprises a packer box that receives the printed pages.

9. The book production apparatus of claim 8, wherein the packer box includes a transfer mechanism that transfers printed pages to the gathering line.

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10. The book production apparatus of claim 9, wherein the feeding device further includes a folder for folding the printed pages.

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11. The book production apparatus of claim 10, wherein the feeding device further includes a transfer apparatus that transfers the folded printed page to the packer box.

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12. The book production apparatus of claim 1, further including an additional demand printer that prints fulfillment pieces during the production sequence wherein the fulfillment pieces are delivered to the gathering line.

13. The book production apparatus of claim 1, wherein the demand printer overprints on a preprinted web of paper.

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14. The book production apparatus of claim 1, further including at least one additional demand printer and feeding device and wherein the controller synchronizes the operation of the gathering line, all of the demand printers, and all of the feeding devices during the production sequence to produce books.

15. The book production apparatus of claim 14, wherein different demand printers print different pages of the books.

5 16. The book production apparatus of claim 14, wherein different demand printers print different versions of the same page of the books.

17. The book production apparatus of claim 14, wherein each feeding device includes a folder for folding pages.

10 18. The book production apparatus of claim 17, wherein each feeding device includes a transfer apparatus that transfers the folded printed pages to the gathering line.

15 19. The book production apparatus of claim 17, wherein each feeding device further includes a packer box that receives the folded printed pages and transfers them to the gathering line.

20 20. The book production apparatus of claim 14, wherein each feeding device includes a transfer apparatus that transfers the folded printed pages to the gathering line.

21. The book production apparatus of claim 14, wherein each feeding device includes a packer box that receives the folded printed pages and transfers them to the gathering line.

25 22. The book production apparatus of claim 14, wherein each different feeding device of the book production apparatus may include different components.

23. Book production apparatus, comprising:  
a gathering line operable during a production sequence;  
a demand printer for producing customized pages;  
a feeding device operable to feed the customized pages to the gathering line; and  
5 a controller that coordinates operation of the gathering line, the demand printer,  
and the feeding device during the production sequence to produce customized books.

24. The book production apparatus of claim 23, wherein the controller is  
coupled to a control interface that controls the demand printer.

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25.. The book production apparatus of claim 24, wherein the control interface is  
responsive to a template file having fixed and variable information.

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26. The book production apparatus of claim 25, wherein the control interface  
includes a processing apparatus operable to separate the fixed and variable information  
into separate fixed and variable data streams.

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27. The book production apparatus of claim 26, wherein the separate fixed and  
variable data streams are provided to a collator/raster image processor together with a  
database and a press command file.

28. The book production apparatus of claim 23, wherein the feeding device  
includes a folder for folding the customized pages.

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29. The book production apparatus of claim 28, wherein the feeding device  
further includes a transfer apparatus that transfers the folded customized page to the  
gathering line.

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30. The book production apparatus of claim 23, wherein the feeding device  
comprises a packer box that receives the customized pages.

31. The book production apparatus of claim 30, wherein the packer box includes a transfer mechanism that transfers customized pages to the gathering line.

5 32. The book production apparatus of claim 31, wherein the feeding device further includes a folder for folding the customized pages.

10 33. The book production apparatus of claim 32, wherein the feeding device further includes a transfer apparatus that transfers the folded customized page to the packer box.

34. The book production apparatus of claim 33, further including an additional demand printer that prints fulfillment pieces during the production sequence wherein the fulfillment pieces are delivered to the gathering line.

15 35. The book production apparatus of claim 23, wherein the demand printer overprints on a preprinted web of paper.

36. A method of producing books, the method comprising the steps of:  
supplying a gathering line, a plurality of demand printers, and a plurality of feeding  
devices; and  
coordinating simultaneous operation of the gathering line, the demand printers, and  
the feeding devices during a production sequence to produce the books.

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37. The method of claim 36, wherein the step of coordinating includes the step  
of operating a controller coupled to the gathering line, the demand printers, and the  
feeding devices.

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38. The method of claim 37, wherein each demand printer is responsive to a  
printer control unit and the step of operating includes the step of transmitting commands to  
the printer control units.

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39. The method of claim 38, wherein each printer control unit includes a  
processing apparatus and further includes the step of separating master and variable data  
streams in the processing apparatus.

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40. The method of claim 39, wherein each printer control unit further includes  
a collator/raster image processor and includes the further step of providing the master and  
variable data streams, a database, and a press command file to the collator/raster image  
processor.

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41. The method of claim 36, further including the step of folding pages printed  
by the demand printers prior to delivery of the pages to the gathering line.

42. The method of claim 36, wherein each feeding device includes a packer  
box and wherein the step of coordinating includes the step of operating the packer box in  
synchronism with the gathering line.